

PERMIT CONDITIONS

FlipChip Technologies

Permit Number 96-0797

October 24, 1996

The numerical section references in this Permit are based on Maricopa County Air Pollution Control Rules and Regulations (Rules) in effect on the date of issuance of these Permit Conditions. In the event that these rules are revised to change the numerical references during the term of this Permit, the revised numbering system will apply to this permit.

GENERAL CONDITIONS:

1. **Annual Compliance Certification:** The Permittee shall file an annual compliance certification with the Maricopa County Department of Environmental Services (Department), Attn: Air Quality Compliance Supervisor. The compliance certification shall be filed on a form and in the manner specified by the Maricopa County Air Pollution Control Officer (Control Officer).
2. **Certification:** Any document which is required to be submitted by this Permit or the Rules shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
3. **Controls:** Except as provided by the applicable Rules or these Permit Conditions, the Permittee shall not operate any equipment or process unless air pollution controls, required by either this Permit or the Rules, are in place, are operating without bypass, and are operating within their design parameters and in accordance with any other conditions specified in this Permit. This requirement to operate any required air pollution control equipment may be temporarily waived:
 - a. for good cause if advanced written approval is obtained from the Control Officer, or
 - b. for preventative maintenance of the control device if the shutdown is allowed in the control's Operation and Maintenance Plan which has been approved in writing by the Control Officer.

The Permittee shall notify the Control Officer, in accordance with Rule 220, before making any additions, modifications or replacements to any air pollution control equipment. This notification requirement does not apply to normal maintenance and repair activities.

4. **Fees:** The Permittee shall pay, in a timely manner, an annual fee for this Permit as determined by the Control Officer in accordance with Rule 280.
5. **Fugitive Dust:** The Permittee shall take all reasonable precautions to minimize the emissions of fugitive dust in accordance with §300 of Rule 310.

6. **Leased/Rented/Borrowed Equipment:** If the Permittee leases, rents, or lends any equipment covered by this permit to a second party, the Permittee shall provide the second party with a copy of this Permit. It is the responsibility of the person using the equipment to make sure that the equipment is properly permitted and operated. If the Permittee does not provide the second party with a copy of this Permit, both the Permittee and the second party shall be responsible for operating the source in compliance with the Permit and for any violation thereof.
7. **Maintenance:** The Permittee shall keep all equipment under this Permit in good working order through an active maintenance program established in accordance with the approved Operation and Maintenance Plans or, in its absence, with manufacturers' recommendations, and generally accepted industry standards.
8. **Malfunctions (Emergency Upsets):** A malfunction that causes emissions in excess of those allowable by either the Rules or these Permit Conditions shall constitute a violation. Any affirmative defense of a violation caused by a malfunction shall be documented in accordance with §501 of Rule 100.
9. **Material Containment:** Materials including, but not limited to, solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizer and manure shall be processed, stored, used and transported in such a manner and by such means that they will not unreasonably evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution.
10. **Modifications:** The Permittee shall notify the Control Officer, in accordance with the Rules, of changes, replacements or additions to the source which are not covered by this Permit.
11. **Odors:** The Permittee shall not emit gaseous or odorous air contaminants from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.
12. **Operations:** The Permittee shall operate all equipment and processes in accordance with these Permit Conditions, applicable approved operations and maintenance plans, and all applicable requirements of Federal laws, Arizona laws, and Maricopa County Air Pollution Control Rules and Regulations.
The Permittee shall halt or reduce activities if necessary in order to maintain compliance with these Permit Conditions, all approved operations and maintenance plans, and all applicable requirements of Federal laws, Arizona laws, and Maricopa County Air Pollution Control Rules and Regulations.
13. **Portable Sources:** If this Permit is for a portable source, the Permittee shall notify this Department, Attn: Air Quality Compliance Supervisor, in writing at least ten days in advance of moving to any location in Maricopa County. The notification shall include, at a minimum, the information required by §410 of Rule 200.

If the proposed location will have additional sources of air pollution under the control of the Permittee, the notification shall also contain a summary of the projected and allowable emissions for these additional sources.

The ten day notification requirement may be waived if both of the following conditions are met:

- a. the Permittee can demonstrate to the satisfaction of the Control Officer that an emergency situation existed, and
- b. the Permittee notifies the Department of the required information by telephone as soon as is practical and follows up with a written copy within seven days.

The Permittee shall submit any fees required by Rule 280 at the time that the notification is filed.

If the Permittee obtains an air quality permit from the Arizona Department of Environmental Quality (ADEQ) for any source covered by this Permit, the Permittee shall provide a copy of the ADEQ permit to the Department within 30 days of its issue.

14. **Record Keeping:** The Permittee shall maintain accurate records as required by these Permit Conditions and by Section 500 of all applicable Rules. These records will be kept in a form which allows easy verification of compliance with these Permit Conditions and any applicable Rules.

All records shall be kept for a minimum of three years except that all records required to demonstrate that an air pollution control device is being operated properly shall be retained for five years.

All records required by this Permit shall be made available for inspection upon request by a representative of the Control Officer.

Upon request, the Permittee shall furnish to the Control Officer copies of records required to be kept by this permit.

15. **Renewal:** The Permittee shall file an application for a permit renewal at least six months, but not more than 18 months, before the expiration date of this Permit.

16. **Reopening For Cause:** This Permit shall be reopened or revised prior to expiration under any of the following conditions:
 - a. either the Control Officer or the Administrator of the United States Environmental Protection Agency (Administrator) determines that this Permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of this Permit, or
 - b. either the Control Officer or Administrator determines that this Permit must be revised or revoked to assure compliance with the applicable requirements.

17. **Reporting:** If notified, the Permittee shall submit an annual emissions inventory report to the Control Officer. The report shall summarize the activities and air pollution emissions from the facility during the previous calendar year in accordance with §507 of Rule 100. The report shall be filed on a form supplied by the Control Officer and shall be due by April 30 or 90 days after the Control Officer makes the forms available, whichever is later.

The Permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control Officer may request in writing to determine whether cause exists for revising or revoking and reissuing this Permit or to determine compliance with this Permit.

Upon request, the Permittee shall furnish to the Control Officer copies of records required to be kept by this Permit.

The Permittee shall file any additional reports required by the Control Officer in a complete and timely manner.

18. **Right to Entry:** The authorized representative of the Control Officer, upon presentation of credentials, shall be permitted:
- a. to enter upon the premises where the source is located or emissions-related activity is conducted, or in which any records are required to be kept under the terms and conditions of this Permit, and
 - b. to have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this Permit, and
 - c. to inspect any source, at reasonable times, equipment (including monitoring and air pollution control equipment), practices or operations regulated or required in this Permit, and
 - d. to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this Permit or other applicable requirements, and
 - e. to record any inspection by use of written, electronic, magnetic, and photographic media.

No claim of confidentiality for trade secrets or commercial information available to the Permittee under Arizona Revised Statutes (ARS) 49-487 or Rule 200 §400 can limit the scope of or otherwise interfere with an on-site inspection by a representative of the Control Officer.

19. **Rights and Privileges:** This Permit does not convey any property rights nor exclusive privileges of any sort.
20. **Severability:** The provisions of this Permit are severable, and, if any provision of this Permit is held invalid, the remainder of this Permit shall not be affected thereby.
21. **Start-up Notification:** The Permittee shall give written notification to the Department, Attention Compliance Supervisor, at least 7 days but no more than 30 days before the initial start-up of any new equipment or process. Start-up shall be defined as the use of any equipment or process covered by this Permit in a manner that emits or controls a regulated air pollutant. However, startup shall not be considered as having occurred if the equipment or process is operated solely for the purpose of calibration or test runs.

This startup notification does not apply to processes or equipment recognized by the Control Officer as being trivial or insignificant activities.

22. **Temporary Equipment:** The Permittee shall notify the Control Officer and obtain appropriate approval, in accordance with the Rules, prior to the installation or operation of any temporary or contractor operated equipment not covered by this Permit.

SPECIFIC CONDITIONS:

23. **Allowable Emissions:** The Permittee shall not allow emissions into the atmosphere in excess of any of the following:

	Daily Emission Limits	Twelve Month Rolling Average Emission Limits
Total Volatile Organic Compounds (VOCs)	150 pounds	24.9 tons
Carbon Monoxide (CO)	6 pounds	1 ton
Nitrogen Oxides (NO _x)	25 pounds	4.5 tons
Sulfur Oxides (SO _x)	0.5 pounds	180 pounds
Total Suspended Particulates (TSP)	1.5 pounds	550 pounds
Particles of 10 Micron Or Smaller (PM ₁₀)	1 pound	365 pounds
Any Single Hazardous Air Pollutant (HAP)	55 pounds	9.9 tons
Total Hazardous Air Pollutants (HAPs)	70 pounds	12.49 tons
Glycol Ethers	55 pounds	9.9 tons
Hydrofluoric Acid (HF)	0.25 pounds	90 pounds
Acid Fumes	2.5 pounds	850 pounds

The twelve month rolling average shall be calculated at the end of each calendar month by summing the emissions over the most recent twelve calendar months.

24. **Operation and Maintenance Plan (O&M Plan):**

The Permittee shall submit an approvable O&M Plan, in accordance with the Department guidelines, to the Department for review, for the process equipment fume scrubbers, at least 30 days before startup:

The O&M Plan for the fume scrubbers shall include requirements for training employees who are responsible for operating or maintaining the equipment.

As part of the O&M Plan, the Permittee shall establish appropriate ranges for the key operating parameters for the fume scrubbers. The Permittee shall monitor, operate and maintain the fume scrubbers in accordance with the approved O&M Plan, to ensure that the emissions limitations of these Permit Conditions are not exceeded.

25. **Training:** The Permittee shall provide training to all personnel who operate or maintain equipment or processes which emit or control regulated air pollutants.
26. **Control Device Parameters:**
For the fume scrubbers, the Permittee shall monitor the following operating parameters as specified in the O&M Plan:
 - a. Water flow rate
 - b. pH of recirculated water
 - c. Total pressure drop across the system
27. **Record Keeping:**
 - a. Emergency generator: The Permittee shall keep accurate daily run time usage records for the emergency generator showing the date, cumulative run time, meter reading and reason for usage.
 - b. The Permittee shall keep monthly records of VOC usage as required by Rule 338, Sections 502.1 and 502.2.
 - c. The Permittee shall keep quarterly records of usage of non-VOC chemicals that produce emissions as identified in paragraph #23.
 - d. All required records shall be kept in a form which allows for easy verification of compliance with these Permit Conditions and any applicable Rules.
 - e. The Permittee shall retain all required records for a minimum of five years and shall make such records available for immediate inspection upon request by an authorized representative of the Control Officer.
28. **VOC Containment And Disposal:** The Permittee shall not store, discard, or dispose of VOC or VOC-containing material in a way intended to cause or to allow the evaporation of VOC to the atmosphere. Reasonable measures shall be taken to prevent such evaporation which include but are not limited to the following:
 - a. All materials from which VOC can evaporate, including fresh solvent, waste solvent and solvent-soaked rags and residues, shall be stored in closed containers when not in use.
 - b. Such containers one gallon and larger shall be legibly labelled describing their contents.
 - c. Records of the disposal/recovery of such materials shall be kept. Records of hazardous waste disposal shall be kept in accordance with hazardous waste disposal statutes.

29. **Source Testing:**

- a. The Permittee shall conduct performance testing on at least one of the two fume scrubbers. The Permittee shall demonstrate a removal efficiency of at least 90% by weight for HF or which ever acid fume is present in the greatest concentration. If 90% by weight removal efficiency cannot be demonstrated due to low inlet concentration levels, the Permittee may establish compliance by demonstrating that outlet concentrations are lower than the test method analytical detection limit or other criteria as approved by the Control Officer. Performance tests shall be conducted under conditions considered representative of standard facility operations.
- b. The Permittee shall conduct the performance testing within 60 days after process equipment has achieved the capability to operate at its maximum production rate on a sustained basis. This time frame may be extended by the Control Officer for good cause, but in no case shall the testing period extend for more than 180 days after the initial startup of the equipment. The testing shall be conducted in accordance with appropriate E.P.A. methods.
- c. The Permittee shall submit an approvable test protocol to the Department for review and approval at least 30 days prior to the emissions test.
- d. The Permittee shall notify the Department in writing at least two weeks in advance of the actual time and date of the performance test so that the Department may have a representative attend.

- e. The Permittee shall complete and submit a report to the Department within 30 days after completion of the performance test. The report shall summarize the results of the testing in sufficient detail to allow a compliance determination to be made.

30. **Other:**

- a. The Permittee shall use natural gas as the fuel in all boilers. However, if the supply of natural gas is disrupted due to circumstances beyond the control of the Permittee, propane or butane may be used until the disruption ends.
- b. The emergency generator shall be used only:
 - 1. when normal power line service fails, or
 - 2. when power is turned off for maintenance, or
 - 3. for routine testing.
- c. The emergency generator shall not be used for peak shaving.
- d. The Permittee shall keep all acid containers and/or tanks covered when not in use.